

**The Integration of Interactive Conflict Simulation with  
High-Security Intrusion Detection Systems**

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Simulation is an important tool for cost-effective planning, strategy and tactics evaluation, decision making, scheduling, resource allocation, coordination, procurement, and management decision making. With the dramatic increases in computational power in recent years, it is now possible to construct comprehensive computer simulations of the numerous threat scenarios that face a nation's critical facilities, infrastructure, and other high-risk assets. This paper describes how advanced computer simulation tools can be effectively integrated with the modern alarm and intrusion detection systems that protect these assets. The resulting integration offers a flexible and powerful capability to physical security planners, security dispatcher trainers, vulnerability assessment specialists, and operations managers.

Included in this paper is a discussion on how the Joint Conflict Simulation capability and the Argus Security System, both developed at Lawrence Livermore National Laboratory, are being uniquely integrated. It is believed that the resulting capability will launch a new dimension in high-security system engineering and operation. This discussion outlines specifically how intrusion scenarios executed in the computer simulation environment can be used to emulate the activation of an alarm system's sensors. The simulated triggering of these alarms will provide security dispatchers and operations personnel with a very realistic visual and temporal representation of an intruder alarm penetration sequence. The resulting capability is particularly attractive for use during the development of large capital improvement projects where the enormous cost of redesign could be devastating.

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